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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/609,015	06/27/2003	Jozef Szlufcik	IMEC306.001AUS	8356

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KNOBBE MARTENS OLSON & BEAR LLP  
2040 MAIN STREET  
FOURTEENTH FLOOR  
IRVINE, CA 92614

EXAMINER
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VINH, LAN

ART UNIT	PAPER NUMBER
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1765

DATE MAILED: 07/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/609,015

**Applicant(s)**

SZLUFCIK ET AL.

**Examiner**

Lan Vinh

**Art Unit**

1765

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 16-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 050304.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Election/Restrictions***

1. Applicant's election without traverse of Group I, claims 1-15 in the reply filed on 7/5/2005 is acknowledged.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-11, 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Klein et al (US 2003/0160026 A1)

Klein discloses a method of etching a semiconductor substrate, the method comprising the steps of:

applying an etching paste comprising an etchant to a part or a layer of the substrate (col 3, paragraph 0055)

heating the substrate, such that the part or the layer of the substrate upon which the etching paste has been applied is etched (col 3, paragraph 0055)

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Regarding claims 2-4, Klein discloses the etching paste includes additive such as ammonium (col 3, paragraph 005), which reads on the etching paste is basic, caustic or alkaline

Regarding claims 5-6, Klein discloses the etching paste includes solvent, thickener (col 3, paragraph 0056), which reads on the etching paste comprises a natural etching paste/natural synthetic paste

Regarding claim 7, Klein discloses applying the etching paste to a microcrystalline silicon substrate (col 1, paragraph 0011)

Regarding claim 8, Klein discloses selectively etching the structure using the etching paste (col 4, paragraph 0093)

Regarding claims 9-10, Klein discloses that screen-printing is a suitable technique for applying the etching paste (col 4, paragraph 0100)

Regarding claim 11, Klein discloses applying the etching paste to a doped layer (col 5, paragraph 0140)

Regarding claim 12, Klein discloses applying the etching paste to a substrate comprises a solar cell and an emitter region (col 5, paragraph 0105)

Regarding claim 13, Klein discloses using the etching paste to obtain edge sharpness of the etch structure (col 3, paragraph 0047)

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Klein et al (US 2003/0160026 A1) in view of Moon et al (US 6,524,880)

Klein method has been described above. Unlike the instant claimed inventions as per claims 14-15, Klein fails to specifically disclose forming one metal contact on a base and emitter region of the substrate and heating the substrate to yield an insulating layer to isolate the metal contact although Klein discloses applying the etching base to a substrate and an emitter or a solar cell

Moon discloses a method for fabricating a solar cell comprises the step of forming one metal contact on a base and emitter region of the substrate and heating the substrate to yield an insulating layer (col 3, lines 5-45)

Since both Klein and Moon are concerned with method for forming solar cell one skilled in the art at the time the invention was made would have found it obvious that Klein solar cell would have included a metal contact on a base and emitter region of the substrate in view of Moon teaching because Moon discloses that high-efficient solar cell includes selective emitter layer under the front metal contact (col 2, lines 34-37)

### ***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lan Vinh whose telephone number is 571 272 1471.

The examiner can normally be reached on M-F 8:30-5:30 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton can be reached on 571 272 1465. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



LV

July 21, 2005